AF#

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U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Effective on 12/8/2004.
Fees pursuant to the Consolidated Appropriations Act, 2005 (H.R. 4818).

FEE TRANSMITTAL
For FY 2005

☐ Applicant Claims small entity status. See 37 CFR 1.27

TOTAL AMOUNT OF PAYMENT **($) 500.00**

Complete if Known	
Application Number	09/723,501
Filing Date	November 28, 2000
First Named Inventor	McDysan, et al.
Examiner Name	Gold, A.
Art Unit	2157
Attorney Docket No.	09710-1236

METHOD OF PAYMENT (check all that apply)

☐ Check ☐ Credit Card ☐ Money Order ☐ None ☐ Other (please identify):_____

☒ Deposit Account Deposit Account Number: 13-2491 Deposit Account Name: MCI, Inc.
For the above-identified deposit account, the Director is hereby authorized to: (check all that apply)
☒ Charge fee(s) indicated below ☐ Charges fee(s) indicated below, **except for the filing fee**
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FEE CALCULATION

1. BASIC FILING, SEARCH, AND EXAMINATION FEES

	FILING FEES		SEARCH FEES		EXAMINATION FEES		
		Small Entity		Small Entity		Small Entity	
Application Type	Fee ($)	Fee ($)	Fee ($)	Fee ($)	Fee ($)	Fee ($)	Fees Paid ($)
Utility	300	150	500	250	200	100	
Design	200	100	100	50	130	65	
Plant	200	100	300	150	160	80	
Reissue	300	150	500	250	600	300	
Provisional	200	100	0	0	0	0	

2. EXCESS CLAIM FEES

Fee Description	Fee ($)	Small Entity Fee ($)
Each claim over 20 or, for Reissues, each claim over 20 and more than in the original patent	50	25
Each independent claim over 3 or, for Reissues, each independent claim more than in the original patent	200	100
Multiple dependent claims	360	180

Total Claims	Extra Claims	Fee ($)	Fee Paid ($)
0 - 20 or HP =	0 x	$50.00 =	$ 0.00

HP = highest number of total claims paid for, if greater than 20

Indep. Claims	Extra Claims	Fee ($)	Fee Paid ($)
0 - 3 or HP =	0 x	$200.00 =	$ 0.00

HP = highest number of independent claims paid for, if greater than 3

Multiple Dependent Claims Fee ($)	Fee Paid ($)
$360.00	

3. APPLICATION SIZE FEE

If the specification and drawings exceed 100 sheets of paper, the application size fee due is $250 ($125 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41 (a)(1)(G) and 37 CFR 1.16(s).

Total Sheets	Extra Sheets	Number of each additional 50 or fraction thereof	Fee ($)	Fee Paid ($)
0 - 100 =	0	/ 50 = 0 (round up to a whole number) x	$250.00 =	$ 0.00

4. OTHER FEE(S)

	Fees Paid($)
Non-English Specification, $130 fee (no small entity discount)	
Other: **Appeal Brief filing fee**	**$500.00**

SUBMITTED BY

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TRANSMITTAL FORM

(to be used for all correspondence after initial filing)

Application Number	09/723,501
Filing Date	November 28, 2000
In re Application of:	David E. MCDYSAN et al.
Group Art Unit	2157
Examiner Name	Gold, A.
Attorney Docket Number	09710-1236
Total Number of Pages in This Submission: 27	Client Docket Number: RIC 00 043

ENCLOSURES ***(check all that apply)***

☒ Fee Transmittal Form	☐ Assignment Papers *(for an Application)*	☐ After Allowance Communication to Group
☐ Fee Attached	☐ Drawing(s)	☐ Appeal Communication to Board of Appeals and Interferences
☐ Amendment / Response	☐ Licensing-related Papers	☒ Appeal Communication to Group *(Appeal Notice, Brief, Reply Brief)*
☐ After Final	☐ Petition Routing Slip (PTO/SB/69) and Accompanying Petition	☐ Proprietary Information
☐ Affidavits/declaration(s)	☐ To Convert a Provisional Application	☐ Status Letter
☐ Extension of Time Request	☐ Power of Attorney, Revocation Change of Correspondence Address	☒ Additional Enclosure(s) *(please identify below):*
☐ Express Abandonment Request	☐ Terminal Disclaimer	Fee Transmittal
☐ Information Disclosure Statement	☐ Small Entity Statement	
☐ Certified Copy of Priority Document(s)	☐ Request of Refund	
☐ Response to Missing Parts/ Incomplete Application	Remarks	
☐ Response to Missing Parts under 37 CFR 1.52 or 1.53		

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm *or* Individual name	DITTHAVONG & CARLSON, P.C. Phouphanomketh Ditthavong, Reg. No. 44658
Signature	
Date	March 21, 2005

CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Assistant Commissioner for Patents, Alexandria, VA 22313-1450 on this date:

Type or printed name	Linda V. Wiley		
Signature		Date	March 21, 2005

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re Application of: David E. MCDYSAN et al.	Conf. No.: 7593
Application No.: 09/723,501	Group Art Unit: 2157
Filed: November 28, 2000	Examiner: Gold, A.
Customer No.: 25537 Attorney Docket: RIC 00 043 Client Docket: 09710-1236	

For: EXTERNAL PROCESSOR FOR A DISTRIBUTED NETWORK ACCESS SYSTEM

APPEAL BRIEF

Honorable Commissioner for Patents
Alexandria, VA 22313-1450

Dear Sir:

This Appeal Brief is submitted in support of the Notice of Appeal dated January 19, 2005.

I. REAL PARTY IN INTEREST

MCI, Inc. is the real party in interest.

II. RELATED APPEALS AND INTERFERENCES

Appellants are unaware of any related appeals and interferences.

III. STATUS OF THE CLAIMS

Claims 2-18 and 20-38 are pending in this appeal, in which claims 1 and 19 have earlier been canceled. No claim is allowed. This appeal is therefore taken from the final rejection of claims 2-18 and 20-38 on September 22, 2004.

IV. STATUS OF AMENDMENTS

No amendment to the claims has been made since the final Office Action dated September 22, 2004.

V. SUMMARY OF THE INVENTION

The present invention addresses problems associated with a network access system. More particularly, the present invention relates to an IP-based communication network including a network access system having distributed and separate routing, signaling, service control, filtering, policy control and other functionality from IP forwarding. (Specification, page 1, lines 25-29) Thus, IP forwarding is separate from other functionality.

Conventional monolithic router designs have limited flexibility and extensibility. The present invention recognizes that it would be desirable, in view of the rapid growth of Internet traffic, to dynamically provision, configure, and/or reallocate access capacity to IP-based services. Because access capacity is necessarily limited and providing additional access capacity is a major cost component of networks, the enforcement of intelligent admission control policies and provision of differing qualities of service is vital to the efficient utilization of available access capacity. However, conventional edge routers are not capable of classifying a wide variety of traffic types while enforcing policy controls or of responding to dynamic requests for capacity, and this functionality is difficult to incorporate within currently deployed monolithic edge

routers. The present invention accordingly recognizes that it would be desirable to provide the above as well as additional policy control, network monitoring, diagnostic, and security services in commercialized hardware, while permitting these services to be tailored to meet the needs of individual customers and service providers. (Specification, page 3, line 30 - page 4, line 14)

A distributed network access system architecture including at least an external processor and a programmable access device is introduced. The external processor includes a service controller that provides at least one service for network traffic, a message processor that processes network messages for service processing by the service controller, and a programmable access device controller that programs the programmable access device in response to service controller processing.

Conventional monolithic, proprietary edge routers are thus replaced with a distributed network access system that allocates the functionality of traditional edge routers (as well as additional functionality) among three logical modules: a programmable access device, an external processor, and an access router. Basic routing of packets between input and output ports of the access network may be performed by the access router. Forwarding and generic traffic conditioning functions, such as marking, policing, monitoring, shaping, and filtering, are implemented in the programmable access device, and service functions, such as message interpretation, signaling, admission control, and policy invocation, are implemented in the external processor. This distribution of functionality results in numerous advantages, including improved scalability, flexibility, extensibility, interoperability, security, and service provisioning. (Specification, page 5, lines 3-33)

If filtering functionality of the programmable access device (PAD) 40 detects packet flows for which services, additional to typical services afforded incoming and outgoing packets,

are appropriate, the programmable access device 40 passes appropriate messages to the external processor 42 for service processing via a Message, Control, and Reporting Interface (MCRI) 58, which can be accessed via an Application Programming Interface (API) on the programmable access device 40 and external processor 42. Distributing functionality between access router 44, programmable access device 40 and external processor 42 in this manner gives the service provider (or even third parties) the freedom to extend and modify existing services, create new services, or add more processing power to external processor 42 without adversely affecting the forwarding performance of the programmable access device 40 and the routing performance or functionality of access router 44. (Specification, page 11, lines 4-14, FIG. 2)

To implement a desired functionality for programmable access device 40 and external processor 42, the service provider (or even a customer or third party) can define policy rules in the policy database 46 of one or more servers 48 (also referred to as a policy decision point (PDP)). Policy server 48 then makes policy decisions that control the functionality and operation of programmable access device 40 and external processors 42 by reference to the policy rules stored in policy database 46. Policy server 48 communicates policy decisions and associated configuration parameters for external processor 42 via a Service Policy Interface (SPI) 56, which can be accessed, for example, via an application program interface (API) on policy server 48 and external processor 42. Communication via Service Policy Interface 56 can employ any of a number of policy query protocols, including Common Open Policy Service (COPS) and Lightweight Directory Access Protocol (LDAP), which are respectively defined by Internet Engineering Task Force (IETF) RFCs 2748 and 2251. External processor 42 relays configuration parameters for programmable access device 40, if any, to programmable access device 40 via Message, Control, and Reporting Interface 58. (Specification, page 11, lines 16-31, FIGs. 2, 4)

The external processor 42 performs three types of processing: invoking policy services, signaling to setup and teardown access network connections, and configuring one or more associated programmable access devices 40. To coordinate these different processing functions, external processor 42 contains one or more service controllers 120, which each may control these three functions for a respective type of service. For example, service controllers 120 may include any or all of a Conference Call Service Controller (CCSC), an E-Commerce Service Controller (ECSC), an IP Telephony Service Controller (IPTELSC), a Reserved Bandwidth Service Controller (RBSC), and a Multicast Service Controller (MSC). Each service controller may maintain a session table recording all of its active sessions with a programmable access device. (Specification, page 17, lines 4-17, FIG. 4)

As further shown in FIG. 4, external processor 42 includes, for each associated programmable access device 40, a respective programmable access device controller 124. Under the direction of service controller(s) 120, each programmable access device controller 124 configures forwarding table 86, packet header filters 80 and 90, marker/policer 82, marker/shaper 94, monitors 84 and 92, and output buffers and schedulers 88 and 96 of the associated programmable access device 40 by invoking commands or scripts understood by control interface 104. External processor 42 also contains a respective message processor 122 for each associated programmable access device 40. Message processors 122 each communicate messages to and from the message interface 100 of the associated programmable access device 40. Upon receipt of a message from a programmable access device 40, which is usually a message received from the customer router 32, a message processor 122 parses the message and informs the appropriate service controller (as determined by the type of service) of its contents. As indicated in FIG. 4, at any given time not all programmable access devices 40 may be configured to handle all service

types; thus, a particular service controller 120 may communicate messages with less than all programmable access devices 40. (Specification, page 17, line 4- page 18, line 2, FIGs. 3, 4)

In response to receipt of a policy decision from policy server 48, service controller 120 may inject one or more packets into a traffic flow via message processor 122, configure a programmable access device 40 via programmable access device controller 124 or control signaling inside or outside communication network 30 via signaling controllers 128a and 128b. Signaling controllers 128 support signaling protocols (e.g., Resource ReSerVation Protocol RSVP, Label Distribution Protocol (LDP), Private Network-Network Interface (PNNI), frame relay or ATM User Network Interface (UNI), etc.) to setup or tear down a Virtual Connection (VC) or Label Switched Path (LSP) across the network. A VC or LSP setup by a signaling controller 128 may have a specified Quality of Service (QoS). (Specification, page 18, lines 22-31, FIGs. 2, 4)

To reduce the number of messages passed between service controllers 120 and policy server 48 via Service Policy Interface 56, service controllers 120 each may cache frequently used policy rules in a respective policy cache 130. Accordingly, if policy information for a policy query arising from an incoming message is already cached, a service controller 120 can forego sending a query to the policy server 48 and make a policy decision by reference policy rules cached in its policy cache 130. In addition, when a service controller 120 queries policy server 48 with a new service request, the service controller 120 may request policy server 48 to dump all the related policy information from policy database 46 to its policy cache 130. (Specification, page 19, lines 1-10, FIGs. 2, 4)

Service Policy Interface 56 also may support at least five message types that are sent from policy server 48 to service controllers 120. The message types sent via Service Policy Interface

56 from policy server 48 to service controllers 120, which are also summarized in Table I on page 20 of the specification, include transaction approval and rejection messages, messages specifying configuration parameters, and messages containing policy information to be cached in policy caches 130. In addition, policy server 48 can send messages to external processor 42 that indicate settings for session level parameters in programmable access device 40. One session level parameter is an inactivity timer that counts time that has elapsed since a packet has been received in an active session and, if more than a specified amount of time has elapsed, signal that the session should be closed for lack of activity. (Specification, page 19, line 29 - page 20, line 7, FIGs. 2, 4)

As shown in FIG. 2, policy requests are received by policy server 48 via Service Policy Interface 56. The policy request typically specifies a requested service and requires a response indicating whether the requested service is to be provided given the parameters of the service (e.g., identity of the requestor, type and amount of the service requested, etc.), and if so, the appropriate configurations for the service. In response to receipt of a policy request, policy server 48 interrogates policy database 46 to access the appropriate policy rules given the parameters provided in the policy request. Policy server 48 then makes policy decisions for the policy request utilizing the accessed policy rules and usage information. For example, policy server 48 may track the amount of bandwidth reserved by a particular customer (a policy rule) and approve or reject a new service request by comparing the amount of remaining reserved bandwidth that is unutilized (usage information) and the amount of bandwidth required to provide the requested service. Policy server 48 then supplies the resulting policy decisions, which can be "approve," reject," and/or configuration of session level parameters for external processor 42 and

programmable access device 40, to external processor 42 via Service Policy Interface 56. (Specification, page 20, line 17 - page 21, line 9, FIGs. 2, 4)

As shown in Table III on pages 25-26 of the specification, the control messages sent from programmable access device controller 124 to control interface 104 via Message, Control, and Reporting Interface 58 include a number of configuration messages that enable a programmable access device controller 124 to configure any of the filtering, marking, policing, monitoring, buffering, scheduling, shaping and forwarding functional modules 80-96 of programmable access device 40 through control interface 104. In particular, output buffers and schedulers 88 and 96 can be configured to allocate a number of buffers or size of buffer per traffic class or traffic flow or to implement CBQ, WFQ, WRR or other buffer scheduling algorithms. Programmable access device controller 124 can also configure marker/shaper 94 to employ static or adaptive shaping algorithms and can configure marker/shaper 94 to implement shaping on a per traffic flow or per traffic class basis. Programmable access device controller 124 can further configure forwarding table 86 in response to a request by a service controller 120 in order to enable the service controller 120 to associate a data flow with an ATM SVC or a MPLS LSP.

In addition to general control messages utilized to configure functional modules 80-96, Message, Control, and Reporting Interface 58 also supports various control messages utilized to configure particular features of the functional modules of programmable access device 40. For example, packet header filters 80 and 90 can be configured to drop multicast packets from an unauthorized source, to admit or deny source routing for a data flow, or to admit only packets with specific source addresses. In addition, programmable access device controller 124 can update forwarding table 86 with SVC and LSP paths setup by a service controller 120 using a signaling controller 128. Reporting interface 102 can be configured via a "Set reporting flags"

control message to enable or disable reporting of selected events by setting or resetting reporting flags corresponding to these events. Programmable access device 40 can also be configured via Message, Control, and Reporting Interface control messages to set the TCP retransmission notification threshold, inactivity timers, activity timers and traffic threshold. Finally, the processing resources of programmable access device 40 and output buffers and scheduler 88, 96 can be configured by an "Allocate Resource" control message sent via Message, Control, and Reporting Interface 58 and control interface 104 to dynamically allocate resources, such as bandwidth, queues, and processing time slices, to a customer interface, a packet flow, a class, or a multicast group. (Specification, page 24, line 14 - page 25, line 14, FIGs. 3, 4)

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

Whether claims 2-6, 9, 20-24, 27, 37, and 38 are obvious under 35 U.S.C. § 103(a) based on *Hammer et al.* (US 5,058,056) in view of *Raghunandan et al.* (US 6,775,689).

Whether claims 7, 8, 10, 11, 25, 26, 28 and 29 are obvious under 35 U.S.C. § 103(a) based on *Hammer et al.* and *Raghunandan et al.* and further in view of *Gai et al.* (US 6,167,445).

Whether claims 12, 13, 30 and 31 are obvious under 35 U.S.C. § 103(a) based on *Hammer et al.* and *Raghunandan et al.* and further in view of *Bullock et al.* (US 6,631,414).

Whether claims 14-18 and 32-36 are obvious under 35 U.S.C. § 103(a) based on *Hammer et al.* and *Raghunandan et al.* and further in view of *Bowman-Amuah* (US 6,442,547).

VII. ARGUMENT

A. THERE IS NO *PRIMA FACIE* BASIS TO REJECT CLAIMS 2-18 AND 20-38 FOR OBVIOUSNESS UNDER *HAMMER ET AL., RAGHUNANDAN ET AL., GAI ET AL., BULLOCK ET AL.*, OR *BOWMAN-AMUAH* BECAUSE THE APPLIED ART DOES NOT TEACH OR SUGGEST THE RECITED FEATURES OF THE CLAIMS.

The initial burden of establishing a *prima facie* basis to deny patentability to a claimed invention under any statutory provision always rests upon the Examiner. *In re Mayne*, 104 F.3d 1339, 41 USPQ2d 1451 (Fed .Cir. 1997); *In re Deuel*, 51 F.3d 1552, 34 USPQ2d 1210 (Fed. Cir. 1995); *In re Bell*, 991 F.2d 781, 26 USPQ2d 1529 (Fed. Cir. 1993); *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). In rejecting a claim under 35 U.S.C. § 103, the Examiner is required to provide a factual basis to support the obviousness conclusion. *In re Warner*, 379 F.2d 1011, 154 USPQ 173 (CCPA 1967); *In re Lunsford*, 357 F.2d 385, 148 USPQ 721 (CCPA 1966); *In re Freed*, 425 F.2d 785, 165 USPQ 570 (CCPA 1970).

The Administrative Procedures Act (APA) mandates the Patent Office to make the necessary findings and provide an administrative record showing the evidence on which the findings are based, accompanied by the reasoning in reaching its conclusions. See *In re Zurko*, 258 F.3d 1379, 1386, 59 USPQ2d 1693, 1697 (Fed. Cir. 2001); *In re Gartside*, 203 F.3d 1305, 1314, 53 USPQ2d 1769, 1774 (Fed. Cir. 2000). In particular, the Patent Office must articulate and place on the record the "common knowledge" used to negate patentability. *In re Zurko*, *id.*; *In re Lee*, 277 F.3d 1338, 1344-45, 61 USPQ2d 1430, 1434-35 (Fed. Cir. 2002).

1. CLAIMS 2-6, 9, 20-24, 27, 37, AND 38 ARE NOT RENDERED OBVIOUS BY *HAMMER ET AL.* AND *RAGHUNANDAN ET AL.*

Appellants respectfully request reversal of the obviousness rejections because none of the applied references, neither alone nor in any reasonable combination, suggest or disclose "a

message processor configured to **parse a message for determining a type of communication service**" and "**a service controller configured to receive the message if the type of communication service corresponds to the service controller, wherein the service controller determines a policy based on the message and generates a control signal according to the policy**" as recited by independent claim 37, or "receiving a network message and **parsing the message to determine a type of communication service with a network processor of the external processor; determining a policy in response to the message with a service controller of the external processor**," and "**generating and transmitting a control signal according to the policy**" as recited by independent claim 38.

By contrast, *Hammer et al.* discloses a system for providing the ability to attach workstations to multiple computers to provide high availability of system resources to the workstation users. A primary workstation controller is connected to a primary host computer and to a plurality of workstations. A secondary workstation controller is connected to a secondary host computer and is also connected to the plurality of workstations in a manner to be pollable by the primary workstation controller (col. 1: 47-50).

The passages of col. 2: 55-68 and col. 3: 1-29 of *Hammer et al.*, cited by the Examiner (Office Action dated September 22, 2004, page 2), at best, merely describe, in general terms, a series of data processing sequences for controlling multiple workstations. Host systems 10 and 100 (per col. 3: 11-13) send commands to workstation controllers 40 and 400 for loading the poll list. At col. 3: 19-22, *Hammer et al.* states, "The **primary and secondary control modes are set in accordance with the states of control bits in the load poll list command**. Except for these control bits, the load poll list commands are identical." A close study of the *Hammer et al.* system, per col. 3: 10-22, reveals that the workstation controllers 40 and 400 (FIG. 1)

operate to load the poll list, and provide no capability to "**parse a message for determining a type of communication service,**" nor any need or desirability for such a capability in the context of the *Hammer et al.* system.

The Examiner (Office Action dated September 22, 2004, page 3) correctly acknowledges, "Hammer fails to teach the limitation including a message processor configured to parse a message for determining a type of communication service; and a service controller configured to receive the message if the type of communication service corresponds to the service controller, wherein the service controller determines a policy based on the message and generates a control signal according to policy." However, the Examiner (Office Action dated September 22, 2004, page 3) then asserts, "Raghunandan teaches the use of a parsing mechanism for identifying email content segments and transmission control directives and segments for constructing output email messages (col. 4, lines 4-23)." The Examiner (Office Action dated September 22, 2004, page 3) then makes a leap in logic to contend that it would have been obvious "to modify Hammer in view of Raghunandan to use a message processor configured to parse a message for determining a type of communication service; and a service controller configured to receive the message if the type of communication service corresponds to the service controller, wherein the service controller determines a policy based on the message and generates a control signal according to policy. One would be motivated to do so because it would allow commands for the PAD to be sent by **the customer router**."

Raghunandan et al. (per Abstract) discloses a system for restructuring email messages for transmission to plural recipients by providing transmission control directives and email content segment identifiers supplied by the user, parsing the directives and email contents, expanding aliases, and applying the directives to restructure the email contents by sending selected segments

to selected recipients in identified lists. The selected segments may be reordered in a defined sequence prior to transmission.

Appellants are unable to determine what "customer router" of *Hammer et al.*, modified or unmodified, the Examiner would presumably use to send the load poll list commands to the workstation controllers, as there is no mention of any "customer router" by either of *Hammer et al.* or *Raghunandan et al.* The Examiner, in the Advisory Action dated January 7, 2005 states, "Raghunandan et al. discloses different mechanisms and directives that supply the functionality of the customer router **mentioned in the applicant's specification**." Appellants respectfully submit that the Examiner has rejected the claims, and not the specification, and thus the Examiner's assertion is irrelevant. Furthermore, even if the Examiner's assertion regarding "the customer router" were determined to be relevant, the Examiner has not clearly established what "different mechanisms and directives" are allegedly disclosed by *Raghunandan et al.* in this regard. Moreover, the Examiner has not established any motivation to modify *Hammer et al.*, as the proposed modification merely adds new levels of complexity to the system of *Hammer et al.*, providing no benefit to the system as disclosed. In rejecting a claim under 35 U.S.C. § 103, the Examiner is required to provide a factual basis to support the obviousness conclusion. *In re Warner*, 379 F.2d 1011, 154 USPQ 173 (CCPA 1967); *In re Lunsford*, 357 F.2d 385, 148 USPQ 721 (CCPA 1966); *In re Freed*, 425 F.2d 785, 165 USPQ 570 (CCPA 1970). No such factual basis has been provided.

Additionally, obviousness rejections require some evidence in the prior art of a teaching, motivation, or suggestion to combine and modify the prior art references. *See, e.g., McGinley v. Franklin Sports, Inc.*, 262 F.3d 1339, 1351-52, 60 USPQ2d 1001, 1008 (Fed. Cir. 2001); *Brown & Williamson Tobacco Corp. v. Philip Morris Inc.*, 229 F.3d 1120, 1124-25, 56 USPQ2d 1456,

1459 (Fed. Cir. 2000); *In re Dembiczak*, 175 F.3d 994, 999, 50 USPQ2d 1614, 1617 (Fed. Cir. 1999). The Patent Office must give specific reasons why one of ordinary skill in the art would have been motivated to combine the references. See, e.g., *In re Kotzab*, 217 F.3d 1365, 1371, 55 USPQ2d 1313, 1317 (Fed. Cir. 2000); *In re Rouffet*, 149 F.3d 1350, 1359, 47 USPQ2d 1453, 1459 (Fed. Cir. 1998). This requirement has not been met by the Examiner.

Further, *Hammer et al.*'s system (per col. 13: 24-25) is designed specifically to have "a minimal number of single elements in the data path that are subject to failure." Thus, *Hammer et al.* teaches away from the combination suggested by the Examiner as it would add new levels of complexity with no benefit to *Hammer et al.*'s system, and further, the suggested modification would render *Hammer et al.*'s system unsatisfactory for its intended purpose.

It is improper to combine references where the references teach away from their combination. *In re Grasselli*, 713 F.2d 731, 218 USPQ 769 (Fed. Cir. 1983). A prior art reference must be considered in this entirety including portions that would lead away from the claimed invention. *W.L. Gore & Associates, Inc. v. Garlock, Inc.*, 721 F.2d 1540, 220 USPQ 303 (Fed. Cir. 1983), *cert. denied*, 469 U.S. 851 (1984). If a proposed modification would render the prior art being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984).

Moreover, neither *Hammer et al.* nor *Raghunandan et al.* is analogous prior art. The Examiner, in the Advisory Action dated January 7, 2005 states, "In this case, both Hammer et al. and Raghunandan both are involved with networking." However, claims 37 and 38 involve a "network **access** system," while *Hammer et al.* is concerned with reliable control of workstations by using primary and secondary workstation controllers and polling the workstations.

Raghunandan et al. is concerned with restructuring email messages. "In order to rely on a reference as a basis for rejection of an applicant's invention, the reference must either be in the field of the applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the inventor was concerned." *In re Oetiker*, 977 F.2d 1443 (Fed. Cir. 1992); see also *In re Clay*, 966 F.2d 656 (Fed. Cir. 1992) ("A reference is reasonably pertinent if, even though it may be in a different field from that of the inventor's endeavor, it is one which, because of the matter with which it deals, logically would have commended itself to an inventor's attention in considering his problem."). In this case, neither *Hammer et al.* nor *Raghunandan et al.* would have logically commended itself to an inventor's attention in resolving network access problems, as neither the workstation control discussed in *Hammer et al.* nor the restructuring of email discussed in *Raghunandan et al.* considers or resolves problems in network access. It is well settled that the problem addressed and solved by a claimed invention must be given consideration in resolving the ultimate legal conclusion of obviousness under 35 U.S.C. § 103. *North American Vaccine, Inc. v. American Cyanamid Co.*, 7 F.3d 1571, 28 USPQ 1333 (Fed. Cir. 1993); *In re Dillon*, 919 F.2d 688, 16 USPQ2d 1897 (Fed. Cir. 1990); *Northern Telecom, Inc. v. Datapoint Corp.*, 908 F.2d 931, 15 USPQ 1321 (Fed. Cir. 1990); *Jones v. Hardy*, 727 F.2d 1524, 220 USPQ 1021 (Fed. Cir. 1984). Here, Appellants recognized that it would be desirable, in view of the rapid growth of Internet traffic, to dynamically provision, configure, and/or reallocate access capacity to IP-based services. Because access capacity is necessarily limited and providing additional access capacity is a major cost component of networks, the enforcement of intelligent admission control policies and provision of differing qualities of service is vital to the efficient utilization of available access capacity. Appellants accordingly recognized that it would be desirable to provide the above as well as additional policy control, network monitoring,

diagnostic, and security services in commercialized hardware, while permitting these services to be tailored to meet the needs of individual customers and service providers. (Specification, page 3, line 30 - page 4, line 14) The problems thus addressed and solved by Appellants must be given consideration, and thus, the obviousness rejection of independent claims 37-38 based on *Hammer et al.* and *Raghunandan et al.* is unsustainable and should be reversed.

The rejection of dependent claims 2-6, 9, 20-24, and 27 should be reversed for at least the same reasons as those discussed above with regard to their respective independent claims, and these claims are separately patentable on their own merits.

For example, claim 6 recites, "the service controller includes means for injecting a packet into a traffic flow handled by the programmable access device." The Examiner (Office Action dated September 22, 2004, page 5) contends that this is taught by *Hammer et al.* at col. 3: 60 - col. 4: 44. However, the cited portion of *Hammer et al.* merely refers to the workstation controller 40 sending "a message" to the CPU 20 either "indicating that the secondary or standby workstation controller 400 does not respond to polls" (per col. 4: 6-9) or "indicating to CPU 20 that the secondary or standby workstation controller 400 responded to a poll" (per col. 4: 34-36). *Hammer et al.*, at col. 2: 67, states, "Workstation controller 40 is attached to the CPU 20," with no further explanation of how they are "attached," much less of how "a message" would be sent from the workstation controller 40 to the CPU 20. Thus, there is no teaching of "injecting a **packet** into a traffic flow" handled by any programmable access device, and therefore the rejection of claim 6 is unsustainable.

2. CLAIMS 7, 8, 10, 11, 25, 26, 28 AND 29 ARE NOT RENDERED OBVIOUS BY *HAMMER ET AL., RAGHUNANDAN ET AL.*, AND *GAI ET AL.*

With respect to the rejections of dependent claims 7, 8, 10, 11, 25, 26, 28 and 29, the addition of *Gai et al.* does not cure the deficiencies of *Hammer et al.* and *Raghunandan et al.* The secondary reference of *Gai et al.* is applied for a supposed teaching of policy servers (Office Action dated September 22, 2004, page 6). Accordingly, the obviousness rejections are unsustainable.

For example, claim 10 recites, "a signaling controller that transmits signals to configure network hardware to provide network connections," and claim 11 recites, "wherein the signals specify a quality of service." In its rejection of these claims, the Examiner (Office Action dated September 22, 2004, page 7) states, "Gai teaches a method and apparatus for applying high-level, quality of service policies at dissimilar computer network devices (see abstract). Gai teaches the **use of signals with a quality of service** (col. 6, lines 27-67; col. 7, lines 1-29)." The Examiner then contends that it would have been obvious "to modify Hammer in view of Gai to use a signaling controller that transmits signals, that specify a quality of service, to configure network hardware to provide network connections. One would be motivated to do so because signals with a specific quality of service help make efficient traffic management decisions."

Appellants respectfully submit that the Examiner does not track the specific claim language, for example, of claim 11, with respect to *Gai et al.*, as *Gai et al.* merely **associates** "Quality of Service labels to specific traffic types," (per col. 6: 48-49) and does not mention "the signals specify a quality of service" as clearly recited by claim 11. The Examiner then further proposes a modification to *Hammer et al.*'s system that again adds new levels of complexity with no real benefit to *Hammer et al.*'s system, as *Hammer et al.* is not concerned with transmitting "signals to configure network hardware to provide network connections" such that

the system would benefit from signals that specify a quality of service. Thus, *Hammer et al.* teaches away from the combination suggested by the Examiner. It is improper to combine references where the references teach away from their combination. *In re Grasselli, supra.* A prior art reference must be considered in this entirety including portions that would lead away from the claimed invention. *W.L. Gore & Associates, Inc. v. Garlock, Inc., supra.* If a proposed modification would render the prior art being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. *In re Gordon, supra.*

Further, none of the applied references provide any motivation to modify *Hammer et al.* as the Examiner suggests. Obviousness rejections require some evidence in the prior art of a teaching, motivation, or suggestion to combine and modify the prior art references. *McGinley v. Franklin Sports, Inc., supra.*

Thus, the rejection of claims 7, 8, 10, 11, 25, 26, 28, and 29 should be reversed.

3. CLAIMS 12-18, AND 30-36 ARE NOT RENDERED OBVIOUS BY *HAMMER ET AL., RAGHUNANDAN ET AL., GAI ET AL., BOWMAN-AMUAH,* AND *BULLOCK ET AL.*

With respect to the remaining obviousness rejections, the addition of *Gai et al., Bullock et al.*, and *Bowman-Amuah,* does not cure the deficiencies of *Hammer et al.* and *Raghunandan et al.* The secondary reference of *Gai et al.* is applied for a supposed teaching of policy servers (Office Action dated September 22, 2004, page 6). *Bullock et al.* is cited as supposedly teaching a job event handler that ends and deletes a TCP session in response to a session activity level (Office Action dated September 22, 2004, page 8). *Bowman-Amuah* is applied for a supposed teaching of a conference call service controller (Office Action dated September 22, 2004, page 9). Accordingly, the various obviousness rejections are unsustainable.

VIII. CONCLUSION AND PRAYER FOR RELIEF

For the foregoing reasons, Appellants request the Honorable Board to reverse each of the Examiner's rejections.

Respectfully Submitted,

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APPENDIX

1. (Canceled)

2. (Previously Presented) The external processor of Claim 37, wherein the external processor includes a plurality of service controllers including said service controller, wherein each of said plurality of service controllers implements a respective one of a plurality of services.

3. (Original) The external processor of Claim 2, wherein the plurality of service controllers includes primary and secondary service controllers for a particular service among said plurality of services, and wherein the secondary service controller provides said particular service to said programmable access device if said primary service controller fails.

4. (Original) The external processor of Claim 2, wherein said plurality of service controllers includes a second service controller in communication with said first service controller such that a network message can be serviced by both of said first service controller and said second service controller.

5. (Previously Presented) The external processor of Claim 2, wherein the external processor is coupled to a plurality of programmable access device, and wherein at least one of the plurality of service controllers performs selectively service processing for a portion of said plurality of programmable access devices.

6. (Previously Presented) The external processor of Claim 37, wherein the service controller includes means for injecting a packet into a traffic flow handled by the programmable access device.

7. (Previously Presented) The external processor of Claim 37, wherein the service controller supports a service policy interface through which the service controller requests policy decision from a policy server.

8. (Previously Presented) The external processor of Claim 37, wherein the external processor includes a policy cache that selectively caches policies obtained from a policy server.

9. (Previously Presented) The external processor of Claim 37, and further comprising a reporting processor that provides an interface through which a reporting event received from the programmable access device is communicated to the service controller.

10. (Previously Presented) The external processor of Claim 37, and further comprising a signaling controller that transmits signals to configure network hardware to provide network connections.

11. (Original) The external processor of Claim 10, wherein the signals specify a quality of service.

12. (Previously Presented) The external processor of Claim 37, wherein the service controller comprises session management means for causing the programmable access device controller to signal the programmable access device to end a session receiving enhanced service.

13. (Original) The external processor of Claim 12, wherein the session receiving enhanced service is a Transport Control Protocol (TCP) session, and wherein the session management means comprises means for causing the programmable access device controller to signal the programmable access device to delete the TCP session state in response to a session activity level.

14. (Previously Presented) The external processor of Claim 37, wherein the service controller comprises a conference call service controller.

15. (Previously Presented) The external processor of Claim 37, wherein the service controller comprises an commerce service controller.

16. (Previously Presented) The external processor of Claim 37, wherein the service controller comprises an internet protocol telephony service controller.

17. (Previously Presented) The external processor of Claim 37, wherein the service controller comprises a reserved bandwidth service controller.

18. (Previously Presented) The external processor of Claim 37, wherein the service controller comprises a multicast service controller.

19. (Canceled)

20. (Previously Presented) The method of Claim 38, wherein performing service processing comprises performing each of a plurality of services in response to network messages with a respective one of a plurality of service controllers.

21. (Original) The method of Claim 20, wherein the plurality of service controllers includes primary and secondary service controllers for a particular service among said plurality of services, and wherein the method further comprises:

in response to failure of communication with said primary service controller for said particular service, performing service processing utilizing the secondary service controller.

22. (Original) The method of Claim 20, wherein performing service processing comprises performing a plurality of services in response to a single network message utilizing a plurality of service controllers.

23. (Original) The method of Claim 20, wherein the external processor is coupled to a plurality of programmable access device, and wherein the method further comprises:

with at least one of the plurality of service controllers, performing service processing for less than all of said plurality of programmable access devices.

24. (Previously Presented) The method of Claim 38, wherein performing service processing includes injecting a packet into a traffic flow handled by the programmable access device.

25. (Previously Presented) The method of Claim 38, wherein performing service processing comprises requesting a policy decision from a policy server.

26. (Original) The method of Claim 25, and further comprising selectively caching, in a policy cache of the external processor, policies obtained from the policy server.

27. (Previously Presented) The method of Claim 38, and further comprising:

receiving a reporting message from the programmable access device; and

performing service processing with the service controller in response to the reporting message.

28. (Previously Presented) The method of Claim 38, and further comprising signaling network hardware from the external processor to provide a network connection.

29. (Original) The method of Claim 28, wherein signaling network hardware comprises specifying a quality of service for the network connection.

30. (Previously Presented) The method of Claim 38, wherein performing service processing comprises signaling the programmable access device to end a session receiving enhanced service.

31. (Original) The method of Claim 30, wherein the session receiving enhanced service is a Transport Control Protocol (TCP) session, and wherein signaling the programmable access device to end a session receiving enhanced service comprises signaling the programmable access device to delete the TCP session in response to a session activity level.

32. (Previously Presented) The method of Claim 38, wherein performing service processing comprises performing conference call service processing.

33. (Previously Presented) The method of Claim 38, wherein performing service processing comprises performing e-commerce service processing.

34. (Previously Presented) The method of Claim 38, wherein performing service processing comprises performing internet protocol telephony service processing.

35. (Previously Presented) The method of Claim 38, wherein performing service processing comprises performing reserved bandwidth service processing.

36. (Previously Presented) The method of Claim 38, wherein performing service processing comprises performing multicast service processing.

37. (Previously Presented) An external processor for a network access system having a programmable access device, comprising:

a message processor configured to parse a message for determining a type of communication service;

a service controller configured to receive the message if the type of communication service corresponds to the service controller, wherein the service controller determines a policy based on the message and generates a control signal according to the policy; and

a programmable access device (PAD) controller configured to receive the control signal for configuring a PAD to enforce the policy with respect to a network connection between a first network and a second network.

38. (Previously Presented) A method of providing network access system with an external processor having a programmable access device, comprising the steps of:

receiving a network message and parsing the message to determine a type of communication service with a network processor of the external processor;

determining a policy in response to the message with a service controller of the external processor;

generating and transmitting a control signal according to the policy; and

establishing a configuration of a programmable access device (PAD) to enforce the policy using the control signal with a PAD controller of the external processor in order to connect a first network and a second network.